

CLAIMS

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1. A solar still, said still including a base having side walls, a solar absorbing member and a glass cover over the absorbing member, characterised that the solar still has means to cast a shadow to enable the solar still to be orientated with reference to the solar radiation to increase the efficiency thereof.
2. A solar still as defined in claim 1 wherein the means to cast a shadow include a recess in a side wall opening to the top of the side wall, the recess having an arcuate wall and an inner wall, and a nodus extending from the inner wall whereby the nodus can cast a shadow on the arcuate wall to facilitate the orientation of the still with respect to the sun.
3. A solar still as defined in either claim 1 or claim 2, wherein the solar still is of the tilted tray type, and the absorbing member includes a plurality of individual cells containing the solution to be evaporated.
4. A solar still, said still including a base having side walls, a solar absorbing member and a glass cover over the absorbing member, wherein the absorbing member is a black sheet of material containing the cells, the still including a reflector positioned beneath the black sheet of material to redirect the black-body long wavelength radiation to be absorbed by the sheet of material to enhance the overall heat gain.
5. A solar still as defined in claim 4 wherein the reflector is a long wavelength reflector, preferably aluminium foil positioned directly beneath the black sheet of material.
6. A solar still, said still including a base having side walls, a solar absorbing member and a glass cover over the absorbing member, wherein the absorbing member is provided with means to substantially eliminate or prevent thermal distortion of the absorbing member.
7. A solar still as defined in claim 6, wherein the means to substantially eliminate or prevent thermal distortion comprise one or more thermal expansion domes or recesses in the absorbing member.

8. A solar still as defined in claim 7 wherein the absorbing member is a panel of black material containing a plurality of individual cells, a thermal expansion dome or recess being provided in the bottom of each cell.

5 9. A solar still, said still including a base having side walls, a solar absorbing member and a glass cover over the absorbing member, characterised that the solar still has means to cast a shadow to enable the solar still to be orientated with reference to the solar radiation to increase the efficiency thereof, and wherein the absorbing member is a black sheet of material containing the
10 cells, the still including a reflector positioned beneath the black sheet of material to redirect the black-body radiation to be absorbed by the sheet of material to enhance the overall heat gain, and wherein the absorbing member is provided with means to substantially eliminate or prevent thermal distortion of the absorbing member.

15 10. A solar still as defined in claim 10, wherein there is provided a drip check on the undersurface of the glass cover to direct the distillate into a distillate outlet in the still.

20 11. A solar still, said still including a base having side walls, a plurality of individual cells formed in a solar absorbing member, and a glass sheet positioned above the cells, the sheet being positioned adjacent to the solar cells at a distance such that the vapour produced in each cell produces turbulence in each cell, the combined effect of the turbulence in all cells minimising convective
25 flow of air and vapour along the undersurface of the glass.

12. A solar cell as defined in claim 11 wherein the glass sheet is positioned in the range of 10 to 20 mm above the cells.

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